

INTRODUCCIÓN A PROXMOX

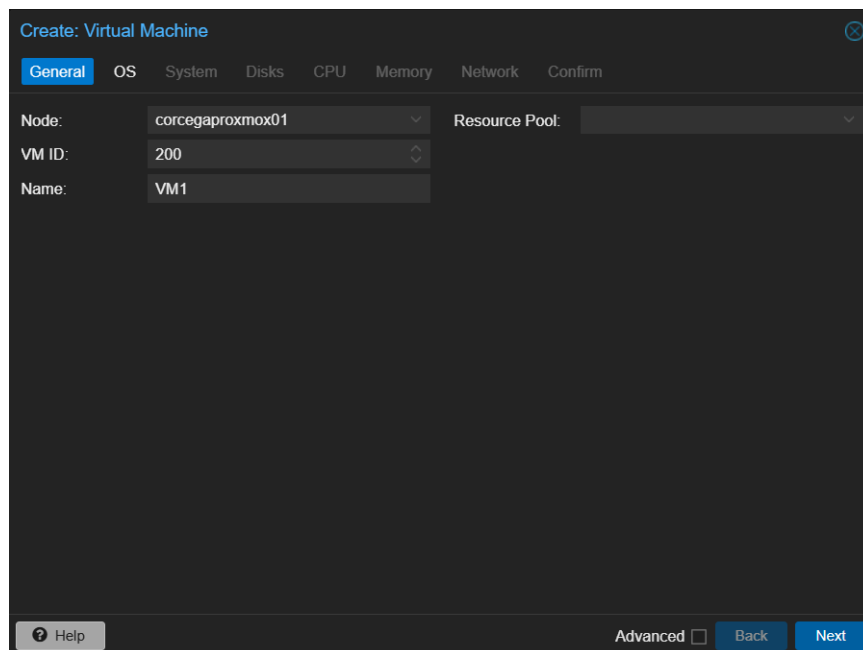
Recursos disponibles:

(Medidas de uso actual sin uso adicional)

- **CPU:** 12 núcleos -> usa entre 0.10% y 0.20%
- **RAM:** 64 GB -> 3.61% usado 2.23 gib
- **Almacenamiento:** 1TB -> 28.51% usado 26.78 gib
- **Redes:** enp3s0, vmbr0

Creación de una máquina virtual dentro del nodo:

Primero añadimos una id concreta para tener así las máquinas organizadas a futuro y un nombre para tenerlas reconocidas.

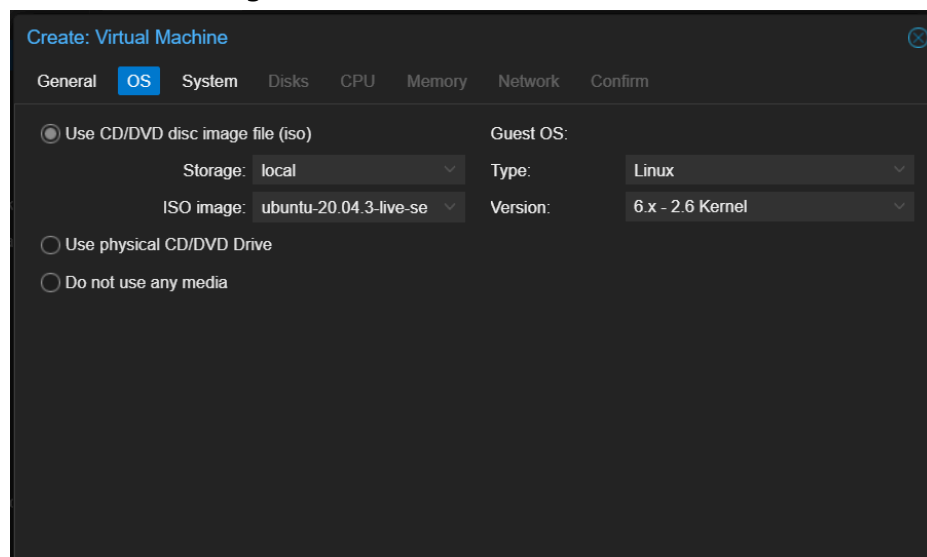


The screenshot shows the 'Create: Virtual Machine' dialog box in Proxmox VE, with the 'General' tab selected. The fields are filled with the following values:

Field	Value
Node:	corcegaproxmox01
VM ID:	200
Name:	VM1
Resource Pool:	

At the bottom, there is a 'Help' button, an 'Advanced' checkbox, and 'Back' and 'Next' buttons.

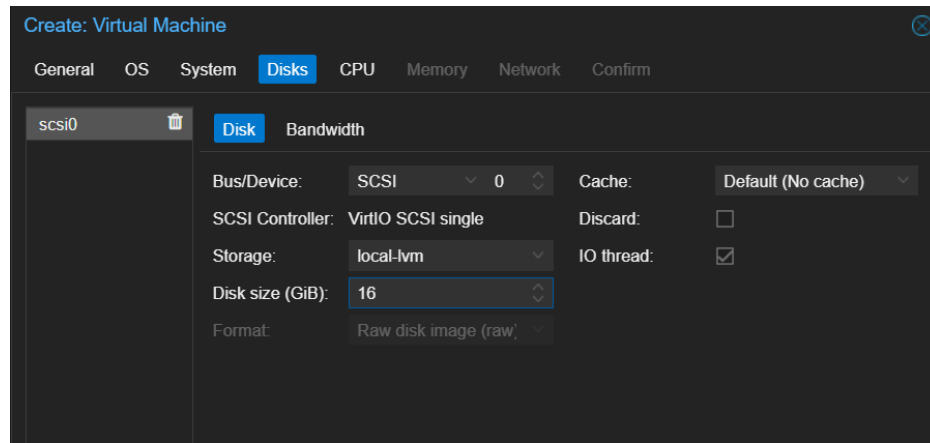
Seleccionaremos la ISO escogida en este caso un ubuntu



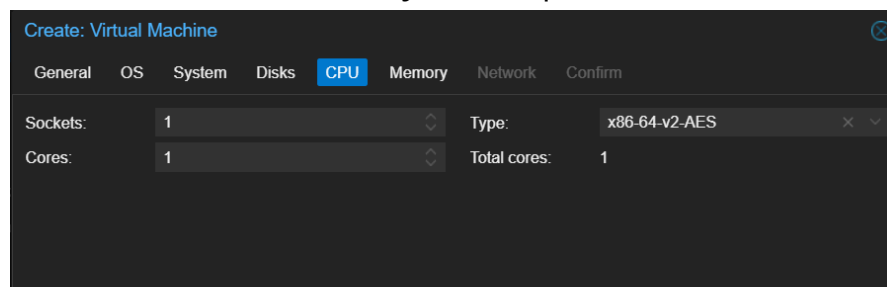
The screenshot shows the 'Create: Virtual Machine' dialog box in Proxmox VE, with the 'OS' tab selected. The settings are as follows:

Option	Value
<input checked="" type="radio"/> Use CD/DVD disc image file (iso)	
Storage:	local
ISO image:	ubuntu-20.04.3-live-se
Guest OS:	Linux
Version:	6.x - 2.6 Kernel
<input type="radio"/> Use physical CD/DVD Drive	
<input type="radio"/> Do not use any media	

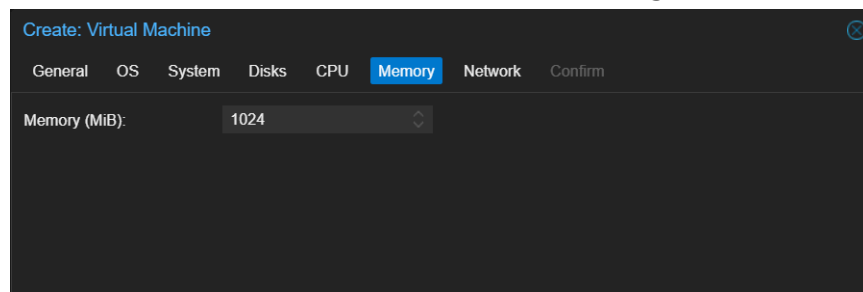
Podemos modificar la capacidad de disco de la máquina la dejamos en 16 GiB



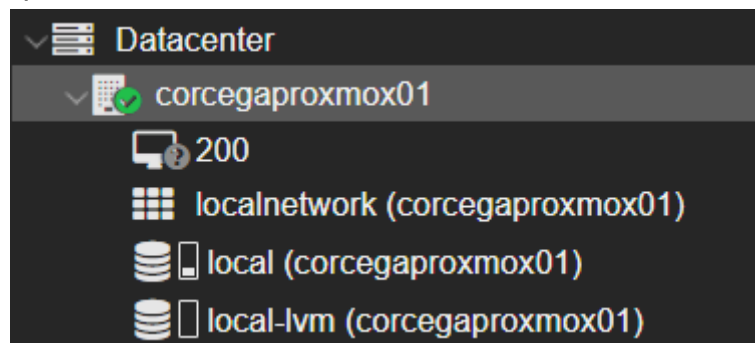
Aquí escogeremos la cantidad de sockets y núcleos que usaremos



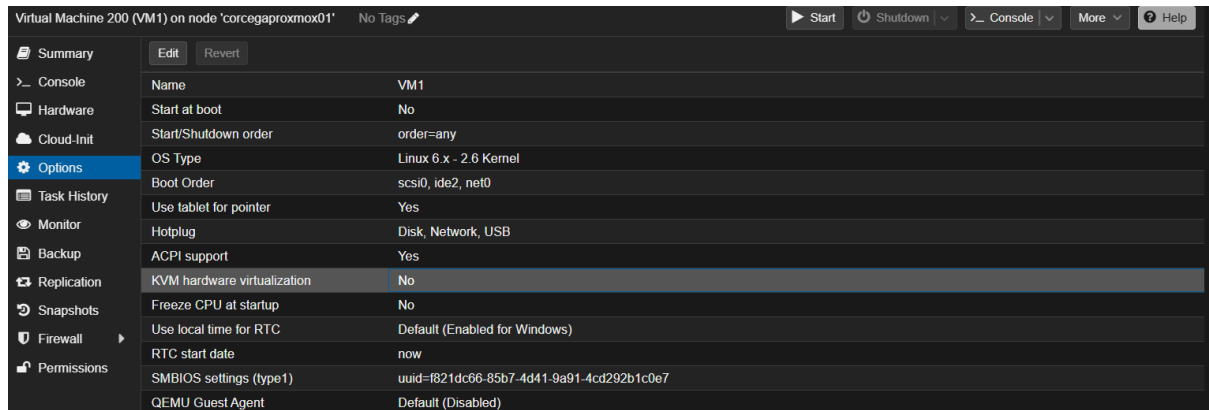
Aquí marcamos la memoria en mb. En nuestro caso solo un Giga.



Vemos que la máquina ha sido creada con éxito.



Y por último desactivamos una opción para poder encender y usar la máquina en cuestión.



En los siguientes pasos recreamos lo hecho en la máquina anterior.

Primero añadimos de nuevo una id concreta en esta máquina será la 201.

Create: Virtual Machine

General OS System Disks CPU Memory Network Confirm

Node: corcegaproxmox01 Resource Pool:

VM ID: 201

Name: VM2

Seleccionaremos la misma ISO que antes la cual es la de ubuntu.

Create: Virtual Machine

General OS System Disks CPU Memory Network Confirm

☒ Use CD/DVD disc image file (iso) Guest OS:

Storage: local Type: Linux

ISO image: ubuntu-20.04.3-live-se Version: 6.x - 2.6 Kernel

☐ Use physical CD/DVD Drive

☐ Do not use any media

Podemos modificar la capacidad de disco de la máquina la dejamos en 16 GiB como la anterior.

Create: Virtual Machine

General OS System Disks CPU Memory Network Confirm

scsi0

Bus/Device: SCSI 0 Cache: Default (No cache)

SCSI Controller: VirtIO SCSI single Discard: ☐

Storage: local-lvm IO thread: ☒

Disk size (GiB): 16

Format: Raw disk image (raw)

Aquí escogeremos la cantidad de sockets y núcleos que usaremos.

Create: Virtual Machine

GeneralOSSystemDisksCPUMemoryNetworkConfirm

Sockets:1

Cores:1

Type:x86-64-v2-AES

Total cores:1

Aquí marcamos la memoria en mb. En nuestro caso solo un Giga.

Create: Virtual Machine

GeneralOSSystemDisksCPUMemoryNetworkConfirm

Memory (MiB):1024

Y por último desactivamos la misma opción que antes para usar la segunda máquina.

Create: Virtual Machine

GeneralOSSystemDisksCPUMemoryNetworkConfirm

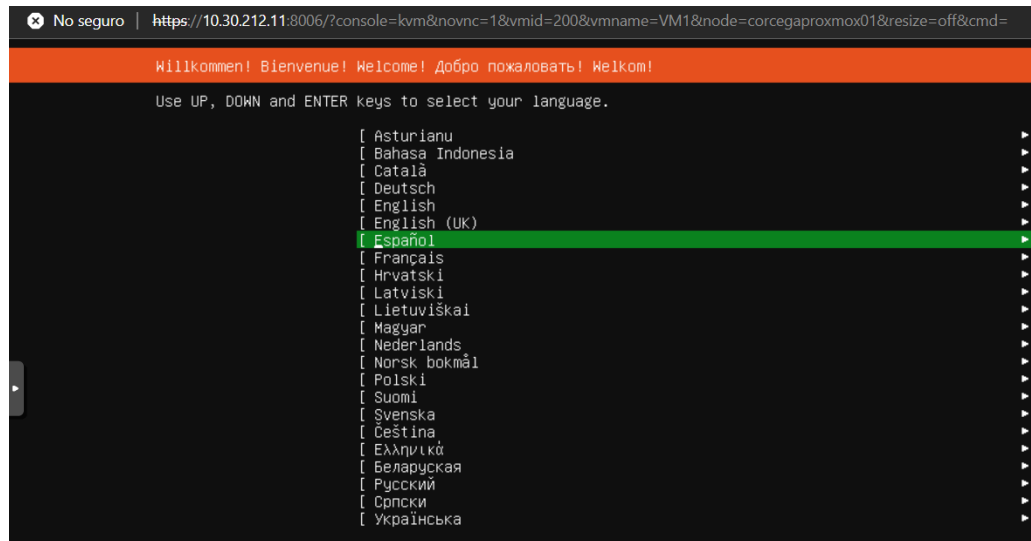
Key ↑	Value
cores	1
cpu	x86-64-v2-AES
ide2	local:iso/ubuntu-20.04.3-live-server-amd64.iso,media=cdrom
memory	1024
name	VM2
net0	virtio,bridge=vibr0,firewall=1
nodename	corcegaproxmox01
numa	0
ostype	l26
scsi0	local-lvm:16,iothread=on
scsihw	virtio-scsi-single
sockets	1
vmid	201

☐ Start after created

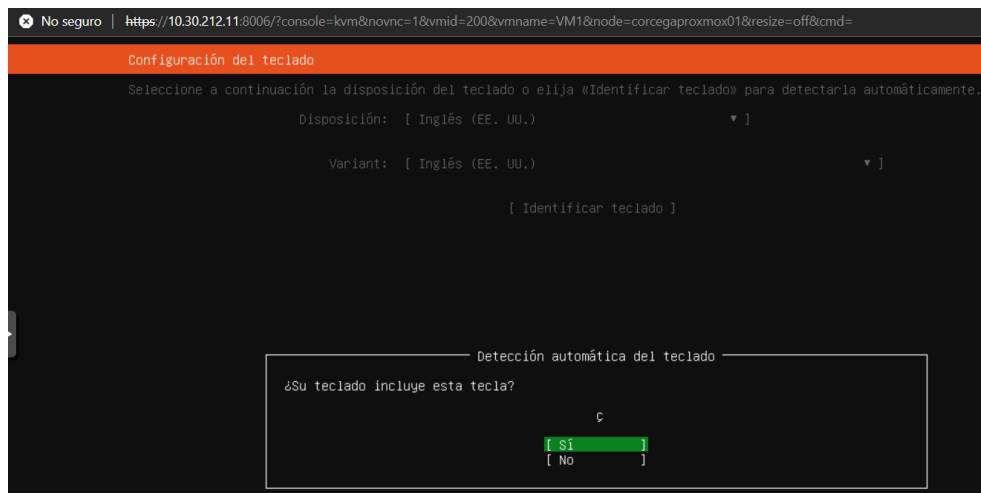
Advanced☐

BackFinish

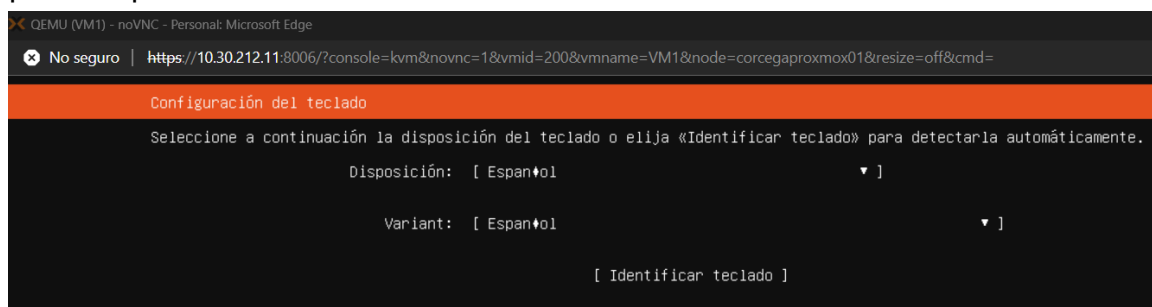
Seleccionamos el idioma que usará la máquina virtual.



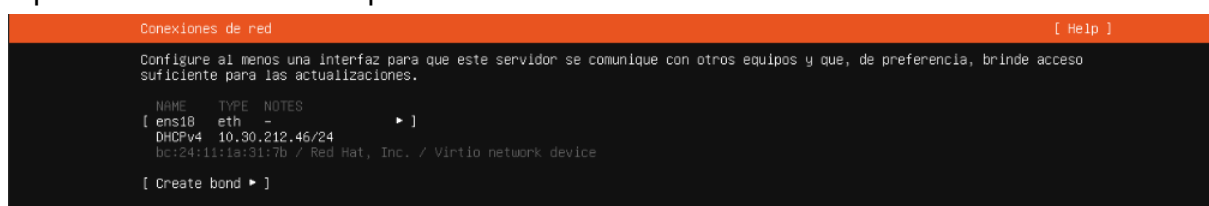
Realizamos la identificación de teclado al español.



Aquí se ve que la identificación de teclado ha funcionado correctamente.



Aquí vemos la red de la máquina.



Escogemos el nombre de usuario y servidor junto a la contraseña.

Profile setup [Help]

Enter the username and password you will use to log in to the system. You can configure SSH access on the next screen but a password is still needed for sudo.

Your name:

vm1

Your server's name:

cloud

The name it uses when it talks to other computers.

Pick a username:

vm1

Choose a password:

Confirm your password:

También instalamos el ssh para poder conectarnos a la máquina en un futuro.

SSH Setup [Help]

You can choose to install the OpenSSH server package to enable secure remote access to your server.

☒

 Install OpenSSH server

Import SSH identity:

[No ▼]

You can import your SSH keys from GitHub or Launchpad.

Import Username:

☒

 Allow password authentication over SSH

3. Configuración de Redes

Aquí vemos el adaptador de red en bridge.

Summary		Add ▾	Remove	Edit	Disk Action ▾	Revert
> Console	Memory	3.99 GiB				
Hardware	Processors	1 (1 sockets, 1 cores) [x86-64-v2-AES]				
Cloud-Init	BIOS	Default (SeaBIOS)				
Options	Display	Default				
Task History	Machine	Default (i440fx)				
Monitor	SCSI Controller	VirtIO SCSI single				
Backup	CD/DVD Drive (ide2)	local:iso/ubuntu-20.04.3-live-server-amd64.iso,media=cdrom,size=1231808K				
Replication	Hard Disk (scsi0)	local-lvm:vm-200-disk-0,iotthread=1,size=32G				
Snapshots	Network Device (net0)	virtio=BC:24:11:BC:44:12,bridge=vibr0,firewall=1				
Firewall						

Lo mismo que en la máquina anterior pero en la segunda máquina.

Virtual Machine 201 (VM2) on node 'corcegaproxmox01' No Tags

Summary	Add ▼	Remove	Edit	Disk Action ▼	Revert
Console	Memory	1.00 GiB			
Hardware	Processors	1 (1 sockets, 1 cores) [x86-64-v2-AES]			
Cloud-Init	BIOS	Default (SeaBIOS)			
Options	Display	Default			
Task History	Machine	Default (i440fx)			
Monitor	SCSI Controller	VirtIO SCSI single			
Backup	CD/DVD Drive (ide2)	local:iso/ubuntu-20.04.3-live-server-amd64.iso,media=cdrom,size=1231808K			
Replication	Hard Disk (scsi0)	local-lvm:vm-201-disk-0,iotthread=1,size=16G			
	Network Device (net0)	virtio=BC:24:11:49:25:49,bridge=vibr0,firewall=1			

Hacemos ping de la maquina vm1 a 8.8.8.8 y a www.google.es

```
vm@cloud:~$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=116 time=12.6 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=116 time=10.6 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=116 time=10.5 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=116 time=10.5 ms
^C
--- 8.8.8.8 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 10.460/11.034/12.616/0.914 ms
vm@cloud:~$ ping www.google.es
PING www.google.es (216.58.215.131) 56(84) bytes of data.
64 bytes from mad41s04-in-f3.1e100.net (216.58.215.131): icmp_seq=1 ttl=116 time=12.1 ms
64 bytes from mad41s04-in-f3.1e100.net (216.58.215.131): icmp_seq=2 ttl=116 time=11.8 ms
64 bytes from mad41s04-in-f3.1e100.net (216.58.215.131): icmp_seq=3 ttl=116 time=11.2 ms
64 bytes from mad41s04-in-f3.1e100.net (216.58.215.131): icmp_seq=4 ttl=116 time=11.2 ms
^C
--- www.google.es ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3006ms
rtt min/avg/max/mdev = 11.243/11.603/12.114/0.373 ms
```

Aquí hacemos lo mismo de la vm2 a 8.8.8.8 y www.google.com.

```
vm2@cloud:~$ ping 8.8.8.8
PING 8.8.8.8 (8.8.8.8) 56(84) bytes of data.
64 bytes from 8.8.8.8: icmp_seq=1 ttl=116 time=11.8 ms
64 bytes from 8.8.8.8: icmp_seq=2 ttl=116 time=10.7 ms
64 bytes from 8.8.8.8: icmp_seq=3 ttl=116 time=9.24 ms
64 bytes from 8.8.8.8: icmp_seq=4 ttl=116 time=10.6 ms
^C
--- 8.8.8.8 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3006ms
rtt min/avg/max/mdev = 9.242/10.604/11.843/0.922 ms
vm2@cloud:~$ ping www.google.com
PING www.google.com (216.58.215.132) 56(84) bytes of data.
64 bytes from mad41s04-in-f4.1e100.net (216.58.215.132): icmp_seq=1 ttl=116 time=12.3 ms
64 bytes from mad41s04-in-f4.1e100.net (216.58.215.132): icmp_seq=2 ttl=116 time=11.8 ms
64 bytes from mad41s04-in-f4.1e100.net (216.58.215.132): icmp_seq=3 ttl=116 time=11.7 ms
64 bytes from mad41s04-in-f4.1e100.net (216.58.215.132): icmp_seq=4 ttl=116 time=10.4 ms
^C
--- www.google.com ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3006ms
rtt min/avg/max/mdev = 10.366/11.546/12.342/0.724 ms
```

Aquí vemos la ip de la vm1.

```
vm@cloud:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: ens18: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether bc:24:11:bc:44:12 brd ff:ff:ff:ff:ff:ff
    inet 10.30.212.50/24 brd 10.30.212.255 scope global dynamic ens18
        valid_lft 604631sec preferred_lft 604631sec
    inet6 fe80::be24:11ff:febc:4412/64 scope link
        valid_lft forever preferred_lft forever
```

Aquí vemos la ip de la vm2.

```
vm2@cloud:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: ens18: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether bc:24:11:49:25:49 brd ff:ff:ff:ff:ff:ff
    inet 10.30.212.41/24 brd 10.30.212.255 scope global dynamic ens18
        valid_lft 553933sec preferred_lft 553933sec
    inet6 fe80::be24:11ff:fe49:2549/64 scope link
        valid_lft forever preferred_lft forever
```

Ping de la máquina vm1 a la vm2.

```
vm2@cloud:~$ ping 10.30.212.50
PING 10.30.212.50 (10.30.212.50) 56(84) bytes of data.
64 bytes from 10.30.212.50: icmp_seq=1 ttl=64 time=3.13 ms
64 bytes from 10.30.212.50: icmp_seq=2 ttl=64 time=0.650 ms
64 bytes from 10.30.212.50: icmp_seq=3 ttl=64 time=3.92 ms
64 bytes from 10.30.212.50: icmp_seq=4 ttl=64 time=0.796 ms
^C
--- 10.30.212.50 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3005ms
rtt min/avg/max/mdev = 0.650/2.125/3.920/1.430 ms
```







Ping de la máquina vm2 a la vm1.

```
vm@cloud:~$ ping 10.30.212.41
PING 10.30.212.41 (10.30.212.41) 56(84) bytes of data.
64 bytes from 10.30.212.41: icmp_seq=1 ttl=64 time=1.16 ms
64 bytes from 10.30.212.41: icmp_seq=2 ttl=64 time=0.638 ms
64 bytes from 10.30.212.41: icmp_seq=3 ttl=64 time=0.646 ms
64 bytes from 10.30.212.41: icmp_seq=4 ttl=64 time=0.586 ms
^C
--- 10.30.212.41 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/mdev = 0.586/0.758/1.164/0.235 ms
```







4. Gestión de Recursos

Aquí vemos el resumen de uso de la vm1.

vm1 (Uptime: 21:22:14)








 Status	running
 HA State	none
 Node	corcegaproxmox01
 CPU usage	2.79% of 1 CPU(s)
 Memory usage	10.91% (445.64 MiB of 3.99 GiB)
 Bootdisk size	32.00 GiB

Y aquí vemos el resumen de uso de la vm2.



VM2 (Uptime: 22:07:36)	
 Status	running
 HA State	none
 Node	corcegaproxmox01
 CPU usage	2.74% of 1 CPU(s)
 Memory usage	84.10% (861.22 MiB of 1.00 GiB)
 Bootdisk size	16.00 GiB

Ninguna está consumiendo más recursos de los esperados.

Si eso ocurriera lo arreglaríamos de la siguiente manera:

VM2	
 Status	stopped
 HA State	none
 Node	corcegaproxmox01
 CPU usage	0.00% of 2 CPU(s)
 Memory usage	0.00% (0 B of 4.00 GiB)
 Bootdisk size	16.00 GiB
 IPs	No Guest Agent configured

Limitamos la CPU desde el modo avanzado en hardware.

Edit: Processors  

Sockets:	<input type="text" value="1"/>	Type:	<input type="text" value="x86-64-v2-AES"/>
Cores:	<input type="text" value="2"/>	Total cores:	2
VCPUs:	<input type="text" value="2"/>	CPU units:	<input type="text" value="100"/>
CPU limit:	<input type="text" value="1"/>	Enable NUMA:	<input type="checkbox"/>

Limitamos también la memoria seleccionando el modo avanzado la bajamos a 2048 MiB.

Edit: Memory

Memory (MiB):

4096

Minimum memory (MiB):

2048

Shares:

Default (1000)

Ballooning Device:

☒

Help

Advanced☒

OK

5. Realización de Copias de Seguridad

Aquí es donde podemos ver los backups realizados.

Datacenter

corcegaproxmox01

200 (vm1)

201 (VM2)

localnetwork (corcegaproxmox01)

local (corcegaproxmox01)

local-lvm (corcegaproxmox01)

Summary

Backups

ISO Images

CT Templates

Restore

Show Configuration

Name

Hacemos una prueba de restauración usando el backup del paso anterior.

Datacenter

corcegaproxmox01

200 (vm1)

201 (VM2)

localnetwork (corcegaproxmox01)

local (corcegaproxmox01)

local-lvm (corcegaproxmox01)

Summary

Backups

ISO Images

CT Templates

Restore

Show Configuration

Edit Notes

Change Protection

Prune group

Remove

Name	Notes
vzdump-qemu-201-2024_09_26-17_45_19.vma.zst	VM2 prueba vm2

Datacenter

corcegaproxmox01

200 (vm1)

201 (VM2)

203

localnetwork (corcegaproxmox01)

local (corcegaproxmox01)

local-lvm (corcegaproxmox01)

Summary

Backups

ISO Images

CT Templates

Restore

Show Configuration

Edit Notes

Change Protection

Prune group

Remove

Task viewer: VM 203 - Restore

Output

Status

Stop

Download

Logical volume "vm-203-disk-0" created.
new volume ID is "local-lvm:vm-203-disk-0"
map 'drive-scsi0' to '/dev/pve/vm-203-disk-0' (write zeros = 0)
progress 1% (read 171835392 bytes, duration 0 sec)
progress 2% (read 343605248 bytes, duration 0 sec)
progress 3% (read 515440640 bytes, duration 0 sec)
progress 4% (read 687210496 bytes, duration 0 sec)
progress 5% (read 859045888 bytes, duration 1 sec)
progress 6% (read 1030815744 bytes, duration 1 sec)